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United States
Department of
Agriculture

Forest Service

Wildlife and Fisheries

Washington, DC

March 1989

Progress Report

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RISE TO THE FUTURE

FOREST SERVICE FISHERIES PROGRAM

PROGRESS REPORT

One of my first actions as Chief was to set into motion the "Rise to the Future" Fisheries Program. I wanted that action to be looked upon 10 years down the road as a significant "curve bending" event. Almost 2 years have past and I like what I see. We still have a long way to go, but the momentum is still on the rise. What is the "Rise to the Future" challenge?

1. To meet rising fishing demands on National Forest System waters. This is being done by protecting, restoring, and improving fish habitats and increasing fishing opportunities on the National Forests and Grasslands.

2. To increase partnerships with States, Federal agencies, Tribal Governments and user groups to protect, restore, and improve fishing and to guide and enhance research efforts.

3. To increase the dollar and people resources directly involved in managing National Forest fisheries.

This report summarizes our progress through 1988 on that challenge.

F. Dale Robertson
Chief

December 1988

PREFACE

NATIONAL FOREST FISHERIES RESOURCES

The 191 million acres of National Forest System lands in 42 States and Puerto Rico contain about 128,000 miles of fishable streams and rivers; 2.2 million acres of ponds, lakes, and reservoirs; and 16,500 miles of coast and shorelines. They provide a tremendous annual harvest of fish for sport, commerce, and subsistence. In addition to hundreds of nongame species, game fish in the National Forests include salmon, trout, catfish, pike, muskellunge, bass, walleye, and sunfish.

Fish production in the National Forests is substantial. For example, in California, Oregon, Idaho, and Washington, over 50 percent of the spawning and rearing habitats for salmon and steelhead trout are found in National Forests, on about 15,000 miles of streams. In Alaska, approximately 27 percent of the freshwater habitat for salmon and steelhead is in the National Forests, on about 30,000 miles of streams.

Sport fishing is the second most popular nation-wide outdoor recreation activity in America. Nearly 60 million anglers engage in some type of sport fishing annually. In 1985, they spent nearly 1 billion days and over $28 billion in pursuing their sport. Demand is expected to increase 90 percent by the year 2030.

As access to private land declines, particularly near urban centers, the National Forests will provide some of the best opportunities for increased public angling. This is especially true for cold and warmwater fishing in the Southwest, Rockies, Northeast, Midwest, and South. Current fishing use throughout the National Forest System is estimated at 46.5 million angler days annually with a net economic value of $1.21 billion. Aquatic habitat protection and restoration in concert with well-designed habitat improvement projects can increase habitat productivity and angling opportunities.

For example, an estimated 25 percent increase in angler use from access development and habitat improvement would amount to an additional 11.6 million angler days and $303 million of fishing related expenditures. Many such opportunities have been identified in Forest land management plans and coordinated with State fish and

wildlife agencies as part of their comprehensive plans developed under to the Sikes Act.

In addition to recreational harvest, the annual harvest of salmon and steelhead spawned and reared in National Forests is over 118 million pounds, with a commercial value of $123 million. The capability exists to increase this harvest through economically sound habitat improvements to 190 million pounds with a direct value of $229 million. Typical projects include construction of fishways to open barriers to fish movement, improvement of spawning and rearing habitat, lake fertilization, and acid neutralization to increase productivity.

Habitat improvement structure installed by Trout Unlimited on Three Springs Run, Monongahela National Forest

RISE TO THE FUTURE

FOREST SERVICE FISHERIES PROGRAM

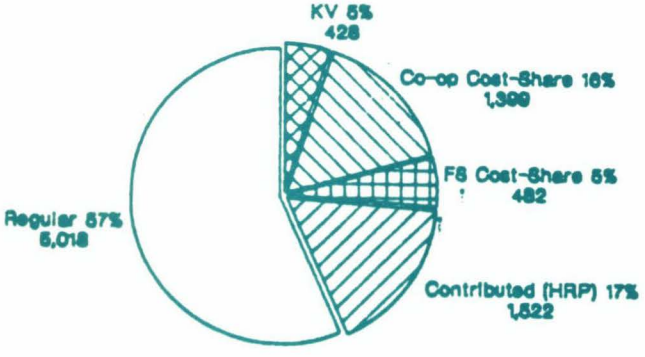
PROGRESS REPORT

NATIONAL SUMMARY

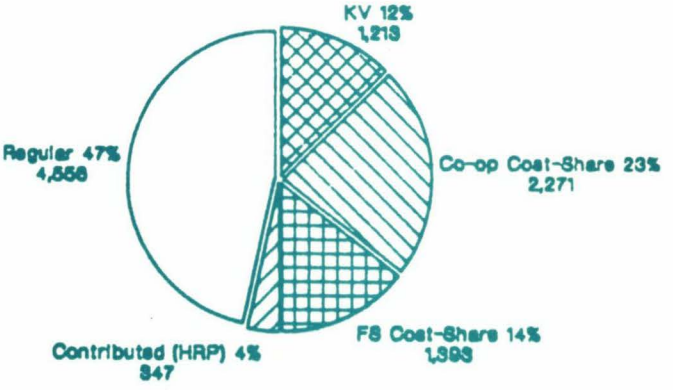
The Forest Service's "Rise to the Future" Fisheries Program Action Plan was approved on March 16, 1987. The plan's objective is to integrate fish habitat management into the overall multiple-use goals on each unit of the National Forest System and to integrate research into the overall Forest Service fisheries program. Significant accomplishments in research and in habitat protection, restoration, and improvement have been made since the initiation of the program. Thousands of acres of lakes and streams were improved by structural and non-structural habitat improvement projects.

Fisheries Program Accomplishments*

Acres of Habitat Improved



Number of Structures Constructed

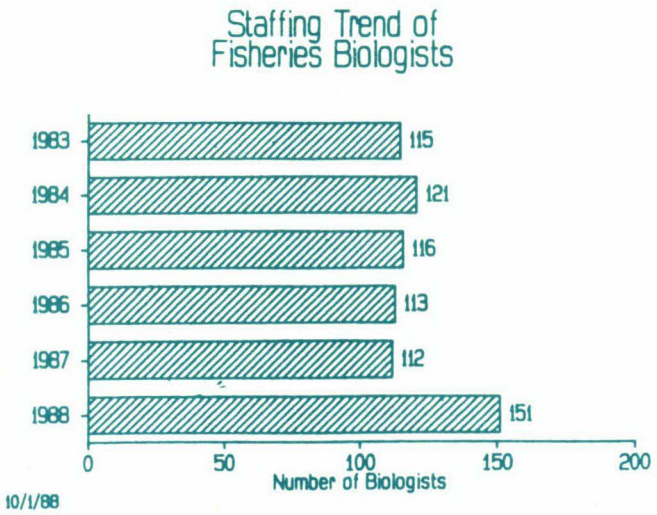


* Funding Sources:
KV: Timber sale receipts
FS Cost-Share: FS appropriations

Regular: Forest Service (FS) appropriations
Co-op: Non-Federal contributions
HRP: Human Resource Program (Volunteers)

Additionally, we have moved to strengthen the infrastructure needed to carry out an aggressive, action-oriented fisheries program. Twenty-eight new fisheries biologists were hired in 1988. Forest Service Researchers and each of the nine Regions have

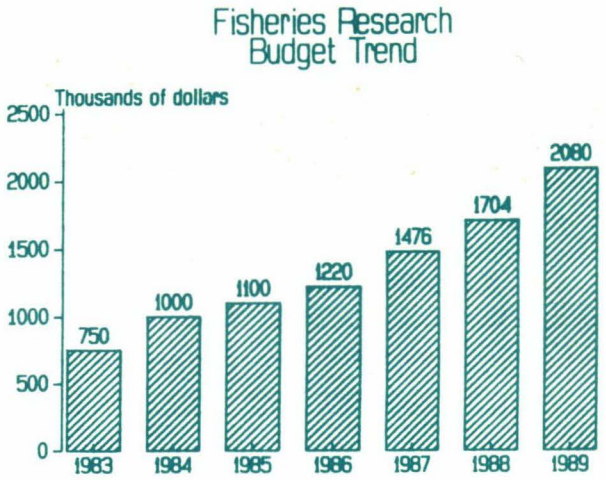
completed action plans which guide the growth and integration of fisheries into the overall mission of the Forest Service, *CARING FOR THE LAND AND SERVING PEOPLE*. Accomplishments in each of the major action areas are summarized below.



PROGRAM IDENTIFICATION. The goal of program identification is to increase the visibility of fish habitat management throughout the Forest Service and among fishery users and cooperators. National and Regional Fisheries Program policies, goals, and objectives have been redefined by the "Rise to the Future" action plans. Policy has been established that fisheries be included in the staff or job title of all units and positions having fisheries responsibilities. The fisheries program mission and function at each organizational level has been defined. A fisheries workload analysis has been conducted by each Region to assess staffing needs on all National Forests. The workload analysis identified a need for over 400 additional fisheries biologists. The identified staffing adjustments are being made. About 100 additional positions will be filled in FY 1989. The Forest Service has worked with the Office of Personnel Management to obtain OPM hiring authority to help meet workforce recruitment needs.

Twelve action items related to program recognition and awareness were identified for Forest Service Research. The various Research Stations around the country and the Forest Environment Research Staff in Washington, D.C. have accepted the challenge of these goals. Much progress has been made in this first year. Two new research units were established in FY 1988: one at Blacksburg, Virginia, and one at Rhinelander, Wisconsin. The researchers located at Blacksburg are concentrating on two lines of research--(1) to determine patterns of distribution and abundance of trout in the Southeast, and (2) to identify those factors that influence trout productivity in the region. Fisheries research conducted from Rhinelander will examine the effects of land use practices on fish production in the lakes and streams in the Great Lakes area.

Increased research efforts will be initiated at Oxford, Mississippi, in FY 1989 to gain knowledge and develop technology to enhance management efforts for warmwater fisheries in the South. Another research program will be initiated in FY 1989 at Laramie, Wyoming, to determine the habitat requirements of inland trout in the central Rocky Mountain Region. Research efforts will be expanded at Boise, Idaho, to support research on the "Fish Production and Sediment" portion of the "Rise to the Future" fisheries program.



TECHNICAL CAPABILITIES. Work on fisheries technologies is designed to increase habitat management efficiency and effectiveness. Major emphasis is on the development, implementation, and refinement of cumulative effects analyses to identify both positive and negative effects of land management on fisheries resources. Additionally, in 1989, emphasis will be on developing technologies needed to monitor implementation of Forest plans.

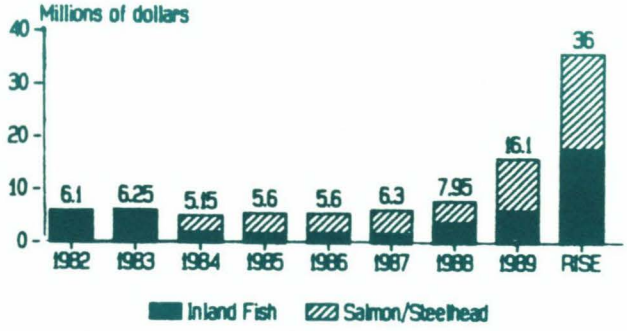
The Research Action Plan identified 15 items related to research planning and coordination that will provide the information and technology needed to optimize management efficiency and effectiveness. Major accomplishments include the development of a major new research program entitled, "Fish Production and Sediment: Habitat Relationships in Managed Stream and Riparian Systems."

Additionally, intra-agency agreements were implemented between the Pacific Northwest Research Station and the Pacific Northwest Region and between the Intermountain Research Station and the Northern and Intermountain Regions to develop, document, and transfer knowledge and technology needed by the Regions for more effective fish management. The Alaska Region also initiated an intra-agency agreement in 1987 to document information on the productive capacity of anadromous fish habitat in second growth forests, to identify factors that limit the production of anadromous fish, and to develop methods and procedures to maintain high levels of fish production in second growth forest streams. The appropriate combination of training modules, workshops and other means will be employed to transfer information and technology developed.

These research efforts include identification of the effects of sediment on fish habitats and production, development of a fish habitat classification system, examination of the effects of livestock grazing on fish habitat and production, limiting factors for fish, development of technologies for monitoring fish populations and production, and other identified information needs.

COMMUNICATION. Communication of fisheries habitat needs and opportunities. A public information plan to inform the public, constituency groups, and employees was developed and is being implemented. Fisheries awareness workshops have been conducted by the Regions to increase awareness and build support for fisheries resource management. Numerous press releases, orientation trips, Congressional briefings, and other presentations have been made. A doubling of the National Forest System fisheries budget from FY 88 to 89, in part, exemplifies the positive results due to increased communications. Communication efforts will be increased in 1989 and emphasis will be placed on better integrating fisheries management into the Forest Service culture.

National Forest System
Fisheries Program
Budget Trend

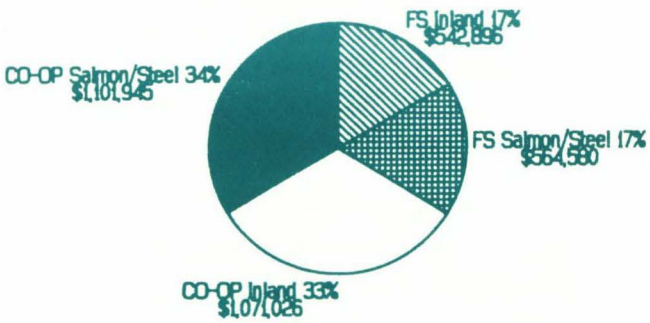


82-89 = Congressional Appropriation
82-83 = Combined inland and salmon/steelhead
Rise = Full implementation of "Rise to the Future"

PARTNERSHIPS. Partnerships and volunteerism are cornerstones of "Rise to the Future." The International Association of Fish and Wildlife Agencies unanimously passed a position strongly supporting "Rise to the Future." The Forest Service was awarded the *CONSERVATIONIST OF THE YEAR AWARD* from Trout Unlimited for its efforts to revitalize the fisheries program.

Formal partnership agreements have been developed with Trout Unlimited, the Federation of Fly Fishers, and the Sport Fishing Institute. The $754,000 in Forest Service funds were matched by $2,173,181 in private sector contributions of funds, equipment, materials, and labor resulting in the completion of projects including 3,737 fisheries habitat improvement structures and the improvement of 2,197 acres of water in 28 States. It looks like we have just touched the tip of the

Challenge Cost-Share Contributions
to the Forest Service
Fisheries Program, FY 1988

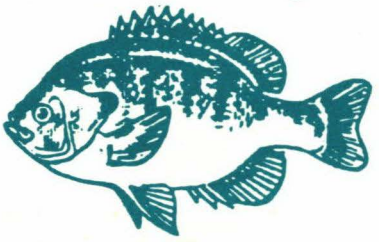


partnership spirit. For 1989, the $2.2 million of Forest funding allocated for partnership fishery work is expected to be matched by over $5 million of non-Federal funding, materials, and labor.

ECONOMICS. Work in fisheries values and economic analysis is intended to spur development and use of valid economic techniques to determine fishery values, supplies, and demands in the decisionmaking process. In cooperation with the Sport Fishing Institute a state-of-the-art publication concerning methods for estimating economic valuation of fisheries has been produced.

Emphasis in 1989 will include determining more accurately the value and levels of fishing use and nonconsumptive use on the National Forests. In concert with the International Association of Fish and Wildlife Agencies, procedures will be developed to determine the values of fisheries and recreational fishing to local economies.

Several economic studies of sport fish use have been initiated such as the one being conducted in southeast Alaska in partnership with the Alaska Department of Fish and Game and the Fisheries Management Foundation.



FISHERY PERSONNEL DEVELOPMENT. The goals of fishery personnel development are to integrate fisheries biologists into the Forest Service, to strengthen technical capabilities, and to recruit and maintain a diversified highly capable workforce. In FY 88 the number of fisheries biologists in District Ranger positions increased from one to four.

A continuing education program has been established for fisheries biologists and other employees to polish technical skills needed for the present, and managerial skills needed for the future. This program is composed of nationally sponsored shortcourses in the areas of Fisheries Habitat Management Techniques, Leadership and Communications, and Resource Policy, Values, and Economics. An analysis of additional training needs has been completed. Training will be expanded to include technical modules sponsored by the Regions to further increase employee efficiency and effectiveness.

RISE TO THE FUTURE

RESEARCH AND REGIONAL HIGHLIGHTS

FOREST SERVICE RESEARCH

To date, the implementation of the "Rise to the Future" program has provided the framework to better identify and share ideas related to knowledge and technology needs. In these early stages of implementation, it is difficult to quantify accomplishments in terms of number of publications, items of technology transferred, or economic payoffs of new technology. The following are a few highlights to illustrate the accomplishments and the potentials of enhancing our research efforts.

- Forest Service Research hired new fisheries scientists at Rhinelander, Wisconsin, and Blacksburg, Virginia, and has plans to expand research efforts at Oxford, Mississippi, and Laramie, Wyoming, in 1989 to include fisheries scientists on the staffs of these research units. Efforts in these units will be to work closely with management biologists to provide them with the technology and expertise to more effectively manage fish habitats.

- Our scientists have represented Forest Service Research at meetings of professional fisheries organizations throughout the nation. Their participation in these meetings ensures that the Forest Service's role in the fisheries resource area is recognized and will assist in attracting the best qualified people to work for the Forest Service. Our research scientists have also participated in or sponsored several workshops or symposia dealing with the fisheries resource.

- Fisheries researchers from several Stations have conducted field trips and Congressional staff briefings.

- The intra-agency agreements in the Pacific Northwest, Northern, and Intermountain Regions have improved working relationships between researchers and managers. These agreements have given managers the opportunity to identify their most critical research needs, provide funding for some of this research, and encourage the timely transfer of new research findings to fisheries biologists at the District level.

- Researchers at the Pacific Northwest Research Station have developed a procedure for inventorying aquatic habitats throughout a major watershed. This procedure is the first of its kind and is being

applied by the Forest Service and many other Federal and State agencies.

- Researchers have developed a systematic procedure for identifying factors within river basins that limit populations of salmon and steelhead trout. The procedure is being widely used in the National Forest System and other agencies for fish habitat improvement.

- The Pacific Northwest Research Station developed an excellent color brochure describing anadromous fish habitat research.

- The Forest Environment Research Staff has prepared color brochures describing our research efforts on the effects of timber management and sedimentation on fish and wildlife resources. These brochures, entitled "Forest Diversity: The Pieces Fit" and "Fish Production and Sediment" will be used to communicate what we do to the public, Congressional members, and other fisheries and wildlife biologists.

Volunteers install gabion for salmon spawning habitat on Camp Creek, Six Rivers National Forest

NATIONAL FOREST SYSTEM REGIONAL SUMMARIES

NORTHERN REGION

Northern Region (1): ND, MT, ID, SD.
USDA Forest Service, Federal Building, P.O. Box 7669, Missoula, MT 59807. Commercial phone (406) 329-3288. FTS 8-585-3520.

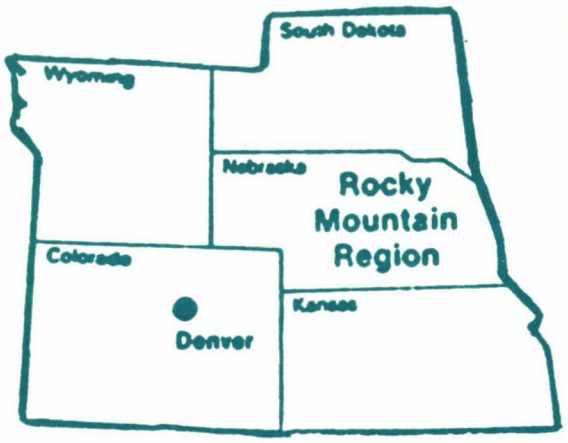
The Northern Region had an active year completing "Rise to the Future" action items. A Partnership Agreement was signed with the Montana Council of Trout Unlimited and the Montana Fish, Wildlife and Parks Department. The goal is to have at least one cooperative project with each of the 10 Trout Unlimited chapters each year. The Region also facilitated the signing of a national partnership agreement with the Federation of Fly Fishers. The total fisheries program improved over 40 miles of streams and 10 acres of lakes. This included 582 acres and 435 structures of habitat improvement, of which 191 acres and 123 structures were accomplished in partnership with 12 separate cooperators. To implement a strengthened fisheries program, two new fisheries biologists were hired plus four new cooperative education fisheries students.

Major accomplishments were recorded on the salmon and steelhead trout habitat restoration project on Crooked River on the Nez Perce National Forest. Dredge mining done in the early 1900's had drastically reduced the capacity of several miles of stream to produce fish. The FY 1988 program of work included reconstruction of riparian habitat and the improvement of diversity to the stream through the addition of cover, pools, and spawning habitat. The project was done in cooperation with funds from the Northwest Power Planning Council through the Bonneville Power Administration and cost a total of $200,000. Expected benefits include 5,200 steelhead and chinook salmon smolts per year. These have a yearly value of over $1 million to the commercial, sport, and Native American fisheries over a 40-year project life span. The stream system now has a greatly improved visual quality.

Major emphasis areas for FY 1989 include the completion of 5-year Forest Plan implementation programs for fisheries on all Northern Region National Forests

and the incorporation of program results in refinement of forest plan budgets, a staffing increase of 5-6 fisheries biologists, finalization of a Regional Fisheries Handbook, and completion of all items from the Regional Action Plan. Additional emphasis will increase partnerships, provide biologist training, habitat monitoring, and sharing of "Rise to the Future" information, both internally and externally.

ROCKY MOUNTAIN REGION



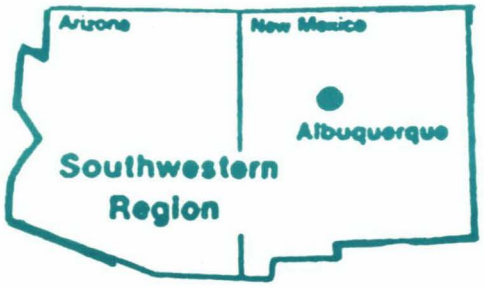
Rocky Mountain Region (2): CO, KS, NE, SD, WY.
USDA Forest Service, 11177 W. 8th Ave., Box 25127, Lakewood, CO 80225. Commercial phone (303) 236-9526, FTS 8-776-9526.

Action plans covering the 12 National Forests of the Rocky Mountain Region were completed and approved in 1988. A partnership agreement was signed between Wyoming National Forests, Wyoming Trout Unlimited, and the Wyoming Game and Fish Department to work cooperatively to improve the State's cold water fisheries resources. Fisheries program accomplishments include 64 acres and 964 structures of habitat improvement, of which 14 acres and 515 structures were completed in partnership with 15 cooperators. A fisheries handbook was completed this past year to assist in the planning, implementation, and evaluation of fisheries projects.

Of the many stream enhancement projects done this year none has been more satisfying than the Big Thompson River Fish Restoration/Handicapped Fishing Access Project. A $10,000 stream restoration project was started in 1987 to restore fish habitat that was destroyed in the catastrophic flood of 1976. Cooperators for this project included Trout Unlimited and the Colorado Division of Wildlife. A total of 44 structures were constructed in 7 stream sections along with planting of willow shoots and clumps to accelerate the natural revegetation of the stream banks. Fish standing crop has nearly doubled in the restored areas. The first fishing access ramp for handicapped citizens in northern Colorado was installed in partnerships with Trout Unlimited and Colorado Division of Wildlife. Joining these organizations were the Loveland Wildlife Association, the Gates Foundation, Fish America Foundation, and local merchants who supplied materials and food to the workers. The ramp was completed by late summer 1988.

In 1989, major emphasis will focus on establishing journey-level fisheries positions on each National Forest and increasing the Regional Fisheries budget to support program development. Presently, there are 4 journey-level fisheries positions and 1 fisheries trainee position to cover the 12 National Forests in the Region. An increase of five fisheries positions is projected for FY 89. The Region's Fish Habitat Relationships Program will also receive greater emphasis. Standardization of basic inventories, land-aquatic classification, and limiting factor analysis will be the focus. The use of new and improved technologies will increase program effectiveness. Additional emphasis will be placed on integrating fisheries with other resources, marketing the Fisheries Program, and developing fisheries monitoring programs that will assist in implementing Forest plans. A partnership agreement with the South Dakota Department of Game, Fish and Parks is being developed and should be signed in 1989.

SOUTHWESTERN REGION



Southwestern Region (3): AR, NM, TX.
USDA Forest Service, Federal Building, 517 Gold Ave. S.W., Albuquerque, NM 87102. Commercial phone (505) 842-3260, FTS 8-476-3260.

The Southwestern Region completed its Fisheries Action Plan in June of 1988. The action plan addressed the importance of fisheries in a Region having limited fisheries resources but is experiencing some of the fastest population growth in the Nation. For example, the number of fisheries biologists in the Region increased to five; there were two biologists prior to the impacts of "Rise to the Future." Thirty-three action items will be addressed within the next 5 years.

During the last 2 years, there have been many stream restoration and improvement projects. Approximately 792 structures have been placed to restore and improve fish habitat on more than 5 stream miles. Reservoir fisheries have been receiving increased emphasis due to their close proximity to major population centers and their value as fish producers. Approximately 208 acres of reservoirs have been renovated. Many habitat improvement efforts have been accomplished through partnerships with 25 different groups through the Challenge Cost-Share Program.

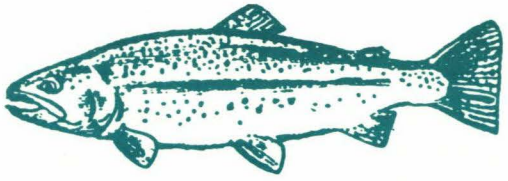
The J.D. Dam reservoir on the Kaibab National Forest was renovated to provide more trout waters to meet increasing fishing demand. The reservoir was silted-

in and was not suitable for trout. The total cost of $35,000 was shared among five groups and the Forest Service. The reservoir is approximately 30 acres at full pool and is projected to provide over 700 additional angler days of fishing per year valued at $55,000 per year in Arizona.

In 1989, emphasis in fisheries will be to provide more and better quality habitat for fishing and to increase emphasis on recovery of threatened and endangered fish so that more fish are downlisted and delisted. Habitat improvement opportunities include the renovation of small reservoirs for trout and the improvement of habitat in our existing, large reservoirs for warmwater fisheries.

Greatest efforts will focus on enhancement of warmwater fisheries habitat in large reservoirs. There are six reservoirs near Phoenix, Arizona, that total 23,000 surface acres. Fish cover in the reservoirs is lacking and needs improvement if the reservoirs are to meet an expected doubling in fishing demand by 2010. For example, fish cover in the shallow areas of the 1,100 acre Saguaro Lake is estimated at 10 percent of its potential, approximately 220 acres of habitat needs improvement to provide 60 percent cover. The other five reservoirs are in similar condition. Currently, two of the reservoirs are scheduled for improvement in FY 1989, and planning has begun for improvements in another.

Five miles of stream have been scheduled for improvement in FY 1989. Also, efforts to improve fish habitat through better riparian habitat management are accelerating. Eleven stream reaches, totalling 10 miles, are scheduled for fencing to exclude livestock in riparian areas. Three sites are being evaluated for construction of new reservoirs to create more fish habitat. The reservoirs will range in size from about 10 acres to 50 acres.



INTERMOUNTAIN REGION

Intermountain Region (4): ID, NV, UT, WY.
USDA Forest Service, Federal Building, 324 25th St., Ogden, UT 84401. Commercial phone (801) 625-5666, FTS 8-586-5666.

The Intermountain Region had a very successful year under the "Rise to the Future" Program. The Regional Action Plan was approved and implemented in all 16 National Forests. A partnership agreement was signed between the Intermountain and Rocky Mountain Regions, Wyoming Department of Game and Fish, and the Wyoming Trout Unlimited Chapter. Major accomplishments include the draft completions of 5-year implementation schedules for fisheries management under the Forest Plans for all forests. The Challenge Cost-Share Program improved 220 acres of stream habitats for salmon, trout, and endangered and threatened species in partnership with 28 separate cooperators. Three National Forests in Idaho were involved in salmon and steelhead trout habitat restoration work in cooperation with the Bonneville Power Administration. Approximately 41 miles of stream were directly or indirectly enhanced for anadromous fish from these projects. A cooperative fisheries-hydrology liaison position was established between the Forest Service, the Environmental Protection Agency, and State of Idaho to coordinate water quality-fisheries monitoring activities under the Clean Water Act.

Partnerships have increased in the Region's 5-State area. Several National Forests have developed working partnerships with such users as Trout Unlimited, Federation of Fly Fishers, State Wildlife Federations, local angling clubs, Boy and Girl Scout units. Up to 200 volunteers have been used on habitat improvement projects for the recovery of threatened cutthroat trout subspecies. Major emphasis in FY 1989 will include continued integration of fisheries management efforts into the Region's range, riparian, mining, timber and recreation programs. The integrated team approach in area analysis has strengthened the fisheries program. Additional emphasis will be given in hiring new fisheries biologists, refining forest plan fisheries budgets, enhancing and improving habitat for threatened, endangered, and sensitive fish species, and in refining and updating the fish habitat relationship technologies for National Forest monitoring efforts. Some

29 projects involving 30 cooperating organizations assisted in enhancing about 44 miles of habitat for threatened cutthroat trout subspecies.

PACIFIC SOUTHWEST REGION

Pacific Southwest Region (5): CA, HI, GU and Pacific Islands Trust Territories of the Pacific Islands. USDA Forest Service, 630 Sansome St., San Francisco, CA 94111. Commercial phone (415) 556-8551, FTS 8-556-8551.

The "Rise to the Future" Program has provided a reexamination of priorities of fish habitat management in California. The fisheries program has moved from relative obscurity within the Region to the forefront. Perhaps the most significant achievement is that all National Forests within this Region are either currently staffed with professional fisheries biologists or have approved positions for 1989. The visibility of the program has increased on each of the 18 National Forests. Regional leaders are looking for ways to improve fishing. They are attempting to make new opportunities available through Challenge Cost-Share, Knutson-Vandenberg timber receipts, and other funding sources. For example, the Forest Supervisor of the Klamath National Forest has taken an active role on the Klamath River Fisheries Advisory Committee. His presence on that committee has helped ensure that production from natural habitat, the factor determining catch allocation, is considered first in attempting to restore the Klamath River salmon stocks. A significant amount of natural production occurs on National Forest lands. Another example is the Stanislaus National Forest, which was severely affected by lightning-caused fires in 1987. Standard streamside management actions have been incorporated into each salvage sale. This resulted in the protection of critical fishery resources in concert with emergency salvage of 300 million board feet of fire damaged timber.

Two of the projects being accomplished are the Gerle Creek spawning improvement and a fishing access trail including handicapped fisherman access to Gerle Creek. The Creek is a tributary to a moderate-sized reservoir that contains a native population of brown trout. All fishing in this highly used area near Sacramento, California, is sustained by naturally reproducing brown trout. The Forest

Service, in cooperation with the Eldorado County Fish and Game Commission, the Department of Fish and Game, and California Trout has developed new spawning areas. The areas were created by building rock or log berms and importing appropriate-sized spawning gravels. The total cost of the project to date has been $9,500. Fishing has increased from 6 to over 40 user days. Some of the increase is due, however, to increased access provided by the streamside interpretive trail built by volunteers from REI (Recreational Equipment Incorporated), the famous outdoor retailer. The trail is scheduled to be redesigned to provide handicapped access leading to a handicapped fishing pier.

The Region's short-term goal under "Rise to the Future" is to complete fisheries habitat assessments and to develop multi-year Forest and Regional program schedules fully coordinated with the State program. With the staffing and funds now available, we anticipate a well-designed restoration and improvement program based on the basin planning concept. The State of California has passed numerous bond measures that are earmarked for fisheries habitat improvement. In addition, a vigorous campaign to bring in new cooperators to help improve native fish habitat, as well as trout, salmon, and warmwater species should develop into a $5 to $6 million program by 1995. The economic returns from this type of high level program are estimated at $38 million for commercial fisheries and well over $50 million for the sport fishing industry.

PACIFIC NORTHWEST REGION

Pacific Northwest Region (6): OR, WA.
USDA Forest Service, 319 S.W. Pine St., Box 3623,
Portland, OR 97208. Commercial phone (503) 326-4091.
FTS 8-423-4091.

The "Rise to the Future" Fisheries Program is running strong in the Pacific Northwest Region. The Regional Action Plan was completed in October 1987, and individual National Forest action plans are expected to be completed in early 1989. On July 15, the Region hosted Forest Service biologists, State and Federal fish and wildlife agencies, Native American tribes, partners, and the news media from Oregon and Washington to participate in a "kick-off" event which introduced the "Rise to the Future" to the Region. Approximately 75 people attended.

Regional accomplishments in 1988 included: the development of a Regional brochure which describes and promotes the Pacific Northwest Region's fisheries

resource; the Mt. Hood National Forest production of a 20-minute video describing its fisheries program; development of an Interagency Agreement with the Pacific Northwest Research Station (PNW) to aid in the development and transfer of technical information; establishment of a Recreation/Fisheries Challenge Cost-Share Program; and implementation of a Region-wide habitat inventory using a process developed by PNW. The Region is moving forward with an aggressive fisheries rehabilitation and enhancement program.

Forest Service expertise in design, implementation, monitoring, and evaluation of instream work is widely acknowledged and is often called upon to assist other agencies and groups. The total fisheries program included approximately 4,706 structures and 419 acres. Major strides are being made to strengthen efforts in the inland fisheries programs. There is a strong commitment toward developing and strengthening partnerships within the Region. Oregon Trout has initiated a budget and staffing review of all 19 Forests. This review will be used by the group to seek support for the fisheries program. The Columbia River Inter-tribal Fisheries Commission is working with the Region on Forest planning and fisheries/riparian management issues. The Region is working with the Northwest Power Planning Council to integrate Forest plans with the Council's Columbia River Basin Fish and Wildlife Program.

In July 1988, Region 6 was recognized by the Western Division of the American Fisheries Society and the Western Association of Fish and Game Commissioners for excellence in riparian management. The Region won with 6 out of 10 awards including the "Most Outstanding" project, Fifteenmile Creek, on the Barlow Ranger District, Mt. Hood National Forest.

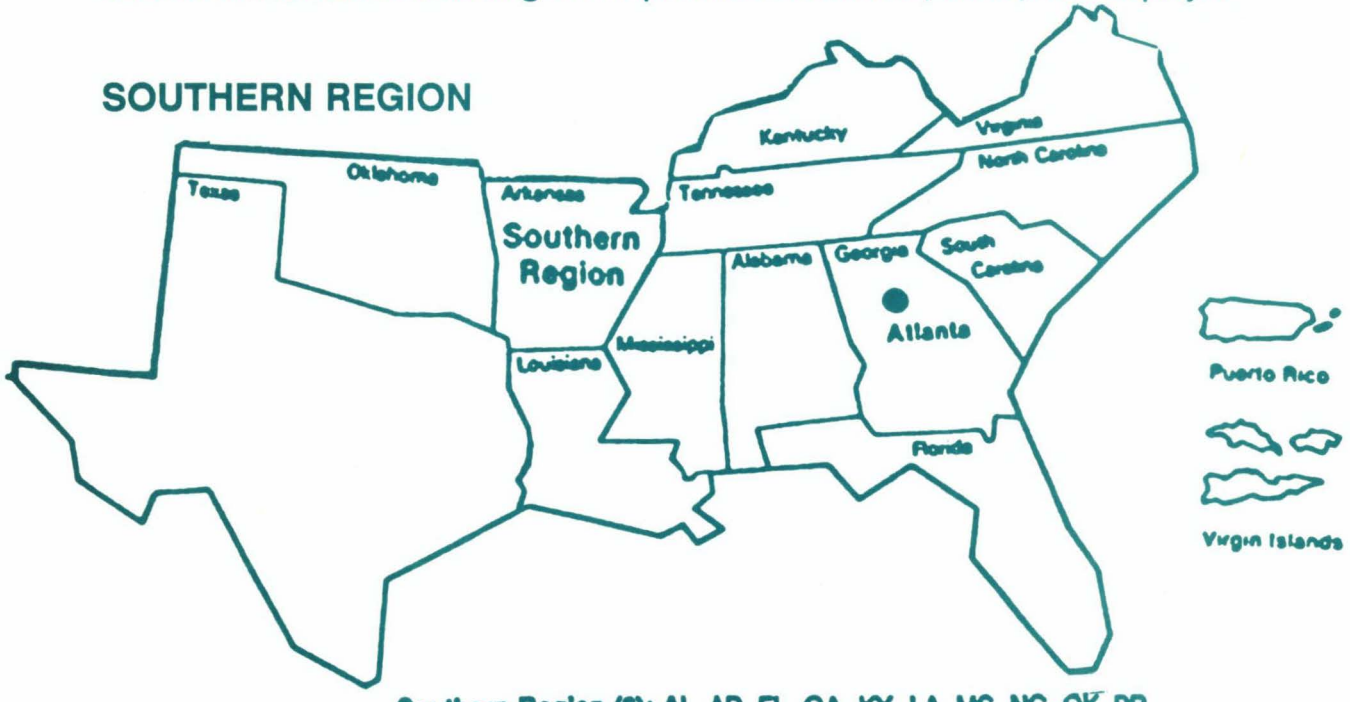
The Fifteenmile Creek project is a cooperative, multi-year fish habitat rehabilitation program funded by the Bonneville Power Administration. Other cooperators include the Forest Service, Oregon Department of Fish and Wildlife, Confederated Tribes of the Warm Springs Indian Reservation, Wasco County Soil and Water Conservation District, Soil Conservation Service, and private landowners.

The goal of the project is to maximize production of wild winter steelhead in the basin by treating approximately 80-90 miles of stream habitat. Total increases in annual smolt production are estimated to range from 22,000 to 47,000. This is an increase of 130 to 280 percent over current estimated smolt production capacity. The total annual increases in adult returns are estimated at 1,560 to 3,340 adult steelhead. Project costs for full implementation on both public and private lands is estimated at $2.2 million.

Major emphasis areas for FY 1989 include a reviewing and updating of the Regional Action Plan, completion of Forest action plans and integration of those

plans with final Forest plans (including completion of a regional workload analysis); opening of special Office of Personnel Management roster for hiring GS 9/11 Fisheries biologists; initiating a Pacific Northwest Regional fish biologist trainee program with at least three cooperatively funded positions on selected forests; expanding trainee programs by increasing the number of positions available in the Region; expanding the numbers and increasing the level of involvement of external partnerships; placing emphasis on building and strengthening partnerships within the Forest Service, especially with watershed and recreation management; increasing cooperative efforts with PNW; substantially expanding the baseline habitat inventory effort throughout the Region; and broadening the Region's marketing efforts in the area of public outreach and informational and educational materials including development of brochures, video, and displays.

SOUTHERN REGION



Southern Region (8): AL, AR, FL, GA, KY, LA, MS, NC, OK, PR, SC, TN, TX, VI, VA. USDA Forest Service, 1720 Peachtree Rd., N.W., Atlanta, GA 30367. Commercial phone (404) 347-4560, FTS 8-257-4560.

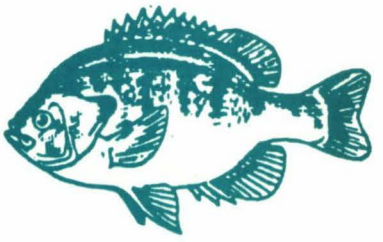
Since the signing of the Fisheries Action Plan for the Southern Region in November 1987, fisheries accomplishments have focused around establishing journey-level fisheries positions on each National Forest and increasing the Regional fisheries budget to support program development. Five new fisheries positions were established at the Forest level in 1988. Several National Forests have developed and begun implementing Forest fisheries action plans. This will continue to occur for the remaining Forests in 1989. Cooperative projects have increased through the Challenge Cost-Share Program with working relations between the Forests and respective States and interest groups continuing to improve. With the establishment of two new fisheries research positions at the Southeast Forest Experiment Station, partnerships between the southern

Forests and Research have increased significantly. Several Forests worked closely with their State agencies and Trout Unlimited Chapters to develop fishing programs centered on developing fishing opporunities for children during National Fishing Week. This endeavor received national recognition and has set the stage for a Region-wide program in 1989. A number of individuals on the Forests have received prestigious awards from constituency groups for their contributions to the "Rise to the Future" Fisheries Program. Recipients include Forest Supervisors, biologists, and staff officers.

In summary, the major accomplishment resulting from this initiative is the overall commitment the National Forests have made toward emphasizing sound fisheries management and the positive reaction this has caused among the States and constituency groups in the South.

One of the major projects in the Southern Region in 1988 was the Chattooga River inventory. Little information was available on the physical and biological conditions of the Chattooga River, a Wild and Scenic River that flows through the States of North Carolina, South Carolina, and Georgia. There were growing public concerns about the apparent reduction in brown and rainbow trout populations over the past several years. Updated information was needed to establish management direction for this popular river and to identify means for improvement.

A cooperative endeavor was initiated in 1986 between the Forest Service, the adjoining States, and Trout Unlimited to obtain 3 years of information on fish populations, aquatic invertebrates, habitat conditions, and angler use on the Chattooga River. This project involved 3 National Forests, 4 State agencies, and 18 Trout Unlimited chapters. Analysis of the study will be completed later this year.



At that time, recommendations will be made for future monitoring needs. Management objectives and needs for the river will be written in 1989 based on the result of this valuable data. Cost of the project totaled $10,500 in Forest Service funding and $11,500 from Trout Unlimited over the 3-year period. Results from the study will provide baseline data to establish necessary protective guidelines for ongoing uncontrolled development in the headwaters and to evaluate current management of the fishery. The benefits from the study will be increased habitat productivity and a higher quantity and quality of fishing use.

In FY 1989, major emphasis will be in developing individual fishery programs on each National Forest that will outline resource objectives and funding needs for the next 5

years. Two new journey-level fishery positions will be established in 1989. A Region-wide handbook will be developed to standardize fisheries program management for new biologists designed specifically for the fisheries resource needs characteristic of the southern Forests. A Region-wide fish and wildlife poster display is currently being developed to market the fish and wildlife programs in the Southern Region. Integrating other resource programs into the fisheries program, with emphasis in recreation and watershed management, will be an important aspect of the 1989 program.

EASTERN REGION

Eastern Region (9): IL, IN, ME, MI, MN, MO, NH, NY, OH, PA, VT, WV, WI. USDA Forest Service, 310 W. Wisconsin Ave., Rm. 500, Milwaukee, WI 53203. Commercial phone (414) 291-3612, FTS 8-362-3612.

"Rise to the Future" was launched with the Region's first fisheries staff officer workshop and a series of fisheries/riparian management workshops for line officers. This program identification effort was augmented by a popular color brochure, "Rx for Fish," which displays the first 3 years of a Regional fisheries initiative.

A record number of fish habitat improvement structures, 1,181, were installed in FY 1988 and 2,269 acres of habitat were improved in 1988. Analysis of the habitat improvement program outlined in the Regional initiative shows a benefit-cost ratio of about 7 to 1.

Other indicators of new fisheries program emphasis include the addition of 3 fisheries biologists, the upgrade of 2 existing positions, a Forest plan amendment made specifically to improve standards and guidelines for fish habitat, and 11 Challenge Cost-Share projects involving 12 cooperators.

The Monongahela National Forest completed phase one of a cooperative project to restore fish habitat in Gandy Creek, which was devastated by a 1985 flood. Cooperators are the West Virginia Department of Natural Resources and Trout Unlimited. The Forest and the Department contributed $10,000 each and Trout Unlimited provided hundreds of hours of labor. Production in the restored reach is expected to increase by 70 pounds of trout and 70 fish user-days, annually. RPA values and predicted project life place economic benefit of the improved fishery at $42,000.

Program emphasis for FY 1989 is to continue the efforts to improve the integration of fisheries into Forest planning through the Integrated Resource Management process. Other priorities include upgrading Forest plan fish habitat standards and guidelines and developing prescriptions to accelerate the accrual of large woody cover to improve fish habitat in lakes and streams.

FY 1989 project highlights will include multi-agency/cooperator habitat improvement projects in several Michigan river systems, phase two of the Gandy Creek project, and continuation of the New England National Forests' Atlantic salmon program. A massive bank stabilization project in cooperation with the Minnesota Department of Natural Resources, the U.S. Army Corps of Engineers, and several other groups will be initiated on 55,000-acre Lake Winnibigoshish on the Chippewa National Forest.

ALASKA REGION

Alaska Region (10): AK. USDA Forest Service, Federal Office Building, Box 1628, Juneau, AK 99802. Commercial phone (907) 586-8752, FTS use commercial phone number.

Nineteen eighty-eight was a busy year for fish habitat enhancement activities with over 700 acres of fish habitat improved, along with the construction of 7 large structural projects. For example, in July the Stikine Area of the Tongass National Forest completed the construction of a 120-foot Alaska steeppass fish ladder at Slippery Creek. This Challenge Cost-Share project involved the Alaska Department of Fish and Game, Northern Southeast Regional Aquaculture Association, and the Forest Serv-

ice. The total project cost was $407,000 with an expected harvestable adult coho salmon production of 11,500/year. An annual benefit of over $150,000 is expected. When totaled over the 25-year life of the project, this annual increase equals approximately $4 million in benefits to commercial, sport, and subsistence users. To monitor the success of the project, the Pacific Northwest Research Station, with funding from the Alaska Region, has initiated a 3-year study to measure coho fry survival and competition with the resident cutthroat trout and Dolly Varden at a cost of $70,000 per year. Several other major habitat improvement projects were also implemented in 1988, including accelerated work for fish habitat on the Copper River Delta on the Chugach National Forest.

Recent research results have identified the role and importance of large woody cover in raising salmonid production and survival, to which management has responded. Innovative approaches to adding natural woody cover, including provisions for future and existing sources of large wood are being developed. Management and research are now determining the importance of the dense closed canopies along streams with eventual development of specific second-growth vegetation manipulation prescriptions. These prescriptions include provisions for woody cover and are aimed at increasing habitat carrying capacity to levels before timber harvest. An interagency brochure was also produced by the Alaska Department of Fish and Game, National Marine Fisheries Service, and Forest Service entitled: "Fish in the Forest - Large Woody Debris in Streams, a New Management Approach to Fish Habitat" to assist in Technology Transfer.

The workforce to accomplish this diverse program has recently undergone a major change with the placement or recruitment of 15 positions in the last year. Placement and training of new personnel will be emphasized during 1989. Other facets of the management program will include maintenance of existing habitats, completion of the stream channel typing for the Tongass National Forest, and continuation of channel typing for the Chugach National Forest. Seven fisheries biologists positions will be added in 1989.

The FY 1989 fisheries enhancement program for the Alaska Region will equal that of FY 1988 with additional emphasis placed on out-year project planning and design. Five-year enhancement plans, including an analysis of aquaculture development in wilderness and non-wilderness, will be finalized, enabling increased outputs for succeeding years.

A Sport Fish Economic Study was initiated in partnership with the Alaska Department of Fish and Game and the Fisheries Management Foundation who contributed $100,000 and $20,000, respectively, as their cost-share part of the study.